CLAIMS

1. A general communication transmission method that enables a transmitted message to span synchronous and asynchronous protocols over a computer network during one transmission comprising:

packaging a message for transmission in a data object, the message packages including information on the original message in the transmission;

sending the packaged message to a designated recipient entity;

receiving the message by a current recipient entity at a location;

modifying packaged message information by current recipient entity to indicate that current recipient entity received the packaged message; and

determining whether current recipient entity is the designated recipient entity.

2. The method as described in claim 1 wherein said modification step further comprises adding substantive information to said packaged message.

3. The method as described in claim 1 wherein said message package is a data object with data fields containing the original message, signing certificate, signature bytes and signed attributes and wherein modification of the message package comprises creating a new data object that is added to the original data object, the new data object having additional information concerning the transmission.

4. The method as described in claim 1 wherein each recipient entity uses a public key and private key pair to authenticate the packaged message origin and contents.

5. The method as described in claim 4 further comprising verifying the packaged message by a recipient entity using the sending entities public key.

6. The method as described in claim 1 wherein said step of determining whether current recipient entity is the designated recipient entity comprises determining whether the packaged message received by said recipient entity has an existing message.

7. A system for transmitting messages spanning synchronous and asynchronous protocols over a computer network comprising:

a network transmission mechanism that enables transmissions across synchronous and asynchronous protocols;

a data structure for containing the information message transmitted over the computer network, the data structure having multiple fields for containing various items related to the message being transmitted; and

encryption key pairs to ensure authenticity and integrity of the message during transmission between sender and final receiver sites.

8. The system as described in claim 7 wherein said data structure contain information comprising original message, signing certificate, signature bytes and signed attributes.

9. The system as described in claim 7 further comprising additional data structures that can be linked and thereby added to the data structure of the original message at each receipt of the message during transmission, said additional data structures containing information about the message transmission.

10. A computer program product in a computer readable medium for use in transmitting messages that span synchronous and asynchronous protocols over a computer network during one transmission comprising:

instructions for packaging a message for transmission in a data object, the message packages including information on the original message in the transmission;

instructions for sending the packaged message to a designated recipient entity;

instructions for receiving the message by a current recipient entity at a location;

instructions for modifying packaged message information by current recipient entity to indicate that current recipient entity received the packaged message; and

instructions for determining whether current recipient entity is the designated recipient entity.

11. The computer program product as described in claim 10 wherein said instructions for modifying packaged messages further comprises instructions for adding substantive information to said packaged message.

12. The computer program product as described in claim 10 wherein said message package is a data object with data fields containing the original message, signing certificate, signature bytes and signed attributes and wherein said instructions for modifying the message package comprises creating a new data object that is added to the original data object, the new data object having additional information concerning the transmission.

13. The computer program product as described in claim 10 further comprising instructions for using a public key and private key pair to authenticate the packaged message origin and contents.

14. The computer program product as described in claim 13 further comprising verifying the packaged message by a recipient entity using the sending entities public key.

15. The computer program product as described in claim 10 wherein said instructions for determining whether current recipient entity is the designated recipient entity comprises instructions for determining whether the packaged message received by said recipient entity has an existing message.

16. A computer connectable to a distributed computing environment and including a mechanism for transmitting messages spanning synchronous and asynchronous protocols over a computer network comprising:

a processor;

a native operating system;

a network transmission mechanism that enables transmissions across synchronous and asynchronous protocols;

a data structure for containing the information message transmitted over the computer network, the data structure having multiple fields for containing various items related to the message being transmitted; and

encryption key pairs to ensure authenticity and integrity of the message during transmission between sender and final receiver sites.

17. The computer as described in claim 16 wherein said data structure contains information comprising original message, signing certificate, signature bytes and signed attributes.

18. The computer as described in claim 16 further comprising a means for linking additional data structures to the data structure of the original message at each receipt of the message during transmission, said additional data structures containing information about the message transmission at each receipt.